

**To:** Burns, Francis[Burns.Fran@epa.gov]; Ferrell, Mark[Ferrell.Mark@epa.gov]; Matlock, Dennis[Matlock.Dennis@epa.gov]; Werner, Lora[Werner.Lora@epa.gov]; Helverson, Robert[Helverson.Robert@epa.gov]  
**Cc:** Arguto, William[Arguto.William@epa.gov]; Caporale, Cynthia[Caporale.Cynthia@epa.gov]  
**From:** binetti, victoria  
**Sent:** Thur 2/13/2014 3:17:00 PM  
**Subject:** FW: Formaldehyde question

This is the information forwarded to Walt yesterday, regarding the email discussion between Jennie Gunderson and Scott Simonton and the positive formaldehyde samples reported in the press. Bill and folks are also developing a background summary on the potential formation of formaldehyde from the MCHM crude mixture in the treated drinking water.--Vicky

-----Original Message-----

**From:** Arguto, William  
**Sent:** Wednesday, February 12, 2014 1:19 PM  
**To:** Walt Ivey  
**Cc:** Caporale, Cynthia; binetti, victoria; Gray, Wendy  
**Subject:** FW: Formaldehyde question

Walt

I wanted to forward the email below regarding information from Dr. Simonton on degradation results. EPA had contacted Dr Simonton to obtain additional information on sample locations and methods. Please see the information below.

We are continuing to evaluate degradation products and will forward additional information. If you have any questions please give me a call

Thanks  
Bill Arguto

-----Original Message-----

**From:** Caporale, Cynthia  
**Sent:** Thursday, February 06, 2014 4:50 PM  
**To:** binetti, victoria; Arguto, William  
**Subject:** FW: Formaldehyde question

Jennie will be on the 9am call tomorrow. We have a report w/ method followed and below is an email string with follow-up questions about sampling.

-----Original Message-----

**From:** Gundersen, Jennifer  
**Sent:** Thursday, February 06, 2014 4:48 PM  
**To:** Caporale, Cynthia  
**Subject:** FW: Formaldehyde question

-----Original Message-----

**From:** [REDACTED] Ex. 6 - Personal Privacy [REDACTED]@marshall.edu]  
**Sent:** Thursday, February 06, 2014 2:12 PM  
**To:** Gundersen, Jennifer  
**Subject:** RE: Formaldehyde question

No i dont. Tanks had porcelain cover and shouldnthave had anything introduced to tank. Place had been

shut down so doubt any recent cleaning

Ex. 6 - Personal Privacy PE, PhD  
Professor  
Marshall University  
Ex. 6 - Personal Privacy

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From: Gundersen, Jennifer [Gundersen.Jennifer@epa.gov]  
Sent: Thursday, February 06, 2014 1:24 PM  
To: Ex. 6 - Personal Privacy  
Subject: RE: Formaldehyde question

Do you know what kind of cleaners/deodorizers they used in those bathrooms? A lot of bathroom cleaners and fresheners and contain traces of formaldehyde.

From: Ex. 6 - Personal Privacy @marshall.edu]  
Sent: Thursday, February 06, 2014 1:07 PM  
To: Gundersen, Jennifer  
Subject: RE: Formaldehyde question

The toilet samples were from the toilet tanks fresh water. That was a clean source that hadn't been flushed in accordance with the water companies advise. Hope that made sense not normal use of the word flush. Anyway the water was used because it was representative of what had come into the building early in the crisis. It hadn't been used.

No more formaldehyde hits but no more MCMH hits either since early in the crisis, I think. I can't keep track and so many others working on this. I BELIEVE some of the agencies are now sampling for formaldehyde also. I know folks from USGS are now adding it to their list as far as the river is concerned.

My concern is that free methanol was a part of the spill and of course was also a component of some of the other contaminants. The water plant hit it with chlorine as they normally would, and then tried potassium permanganate to try to oxidize what was coming in. So my concern isn't just formaldehyde that was just an easy one to think about but other oxidation/breakdown/daughter/degradation products from all of the components in the crude MCHM that the agencies should have been thinking about and looking for in the finished water.

We've been doing trip and method blanks, but they don't always make it in the mix. A lot of folks sampling and the analyte list is far from static as we try to get a handle on what we should be looking for. I'd love your opinion on that in light of the above especially the KMnO4.

I'm headed to the site now, but can probably talk some time today if you'd like, or email.

Thank you Jennie!

Ex. 6 - Personal Privacy

Ex. 6 - Personal Privacy PE, PhD  
Professor and Program Coordinator  
Environmental Science  
Marshall University

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From: Gundersen, Jennifer [mailto:Gundersen.Jennifer@epa.gov]  
Sent: Thursday, February 06, 2014 12:52 PM  
To: Ex. 6 - Personal Privacy  
Subject: RE: Formaldehyde question

H [Ex. 6 - Personal Privacy]

A couple quick questions on my first look.

Has any more sample data come in?

Interesting that the 3 hits were in samples labeled toilet . How were they sampled?

Did the lab confirm with gc/ms - as method 8315A suggests when working with unfamiliar matrices?

Since the 3 results were all pretty close to the reporting limit of 25, I would hope they confirmed somehow.

Did you do any field blanks or trip blanks? I only saw lab method blanks.

Thanks

Jennie

From: [Ex. 6 - Personal Privacy]@marshall.edu]

Sent: Wednesday, February 05, 2014 10:11 AM

To: Gundersen, Jennifer

Subject: RE: Formaldehyde question

Hey Jennie I m sorry I ve been awful about getting back with folks. Of course I m on my way out the door, but attached is a lab report with the formaldehyde hits and includes method, etc.

I really would like to talk to you about it, so maybe after you have a chance to look at it we can talk.

Thanks!

[Ex. 6 - Personal Privacy]

Dr. Scott Simonson, PE, PhD

Professor and Program Coordinator

Environmental Science

Marshall University

From: Gundersen, Jennifer [mailto:Gundersen.Jennifer@epa.gov]

Sent: Wednesday, February 05, 2014 10:00 AM

To: [Ex. 6 - Personal Privacy]

Subject: RE: Formaldehyde question

Hi Scott,

Resending this in case it got lost in your inbox.

If you have an SOP, method number, and raw data with QC you could share, I would appreciate it.

Thanks,

Jennie

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Jennifer L. Gundersen, Ph.D.

Chemist

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gundersen.jennifer@epa.gov<mailto:gundersen.jennifer@epa.gov>

From: Gundersen, Jennifer  
Sent: Wednesday, January 29, 2014 3:59 PM  
To: 'Ex. 6 - Personal Privacy'  
Subject: Formaldehyde question

Hi Ex. 6 - Personal Privacy

I saw the article (<http://www.wvgazette.com/News/201401290053>) that indicated you found formaldehyde in a drinking water sample. I was hoping you could tell me what method you used, as well as the detection limit, as I believe our lab (the EPA Region 3 lab) will be asked to run samples. Any info on blanks results and if you ran any matrix spikes would be useful as well.

Many thanks,  
Jennie Gundersen

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